

CLAIMS

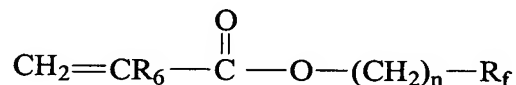
1. A coating composition containing about 45-90% by weight of film forming binder and 10-55% by weight of an organic liquid carrier; wherein the binder comprises:

(A) about 10 to 90% by weight, based on the weight of the binder, of a film-forming fluorinated organosilane polymer consisting essentially of about 5 to 98% by weight, based on the weight of the polymer, of polymerized ethylenically unsaturated monomers which do not contain a silane or a fluorine functionality, about 1.5 to 70% by weight, based on the weight of the polymer, of ethylenically unsaturated monomers which contain a silane functionality, and about 0.5-25% by weight, based on the weight of the polymer, of polymerized ethylenically unsaturated monomers which contain a fluorine functionality,

(B) about 0 to 60%, based on the weight of the binder, of a non-aqueous dispersed polymer, and

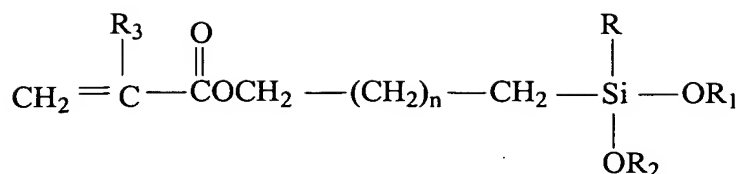
(C) about 10 to 90% by weight, based on the weight of the binder, of an crosslinking agent selected from one or both of an organic polyisocyanate and melamine crosslinking agent.

2. The coating composition of claim 1 in which the ethylenically unsaturated monomers containing a fluorine functionality have the following structural formula



where R^6 is selected from the group consisting of hydrogen or an alkyl group having 1-2 carbon atoms, n is an integer of 1-18 and R_f is a fluoroalkyl containing group having at least 4 carbon atoms.

3. The coating composition of claim 1 in which the ethylenically unsaturated monomers containing a silane functionality have the following structural formula



where R is selected from the group consisting of CH₃, CH₃CH₂, CH₃O, or CH₃CH₂O; R₁ and R₂ are independently selected from the group consisting of CH₃ or CH₃CH₂; and R₃ is either H, CH₃, or CH₃CH₂; and n is 0 or a positive integer from 1 to 10.

4. The coating composition of claim 1 in which the fluorinated acrylosilane polymer has a weight average molecular weight of about 500-30,000 and consists essentially of ethylenically unsaturated non-silane/non-fluorine containing monomers selected from the group consisting of styrene, alkyl acrylate, alkyl methacrylate, cycloaliphatic acrylates, cycloaliphatic methacrylates, aryl acrylates, aryl methacrylates, and any mixtures thereof, ethylenically unsaturated silane monomers selected from the group consisting of alkoxy silane monomers, acyloxy silane monomers, and any mixtures thereof, and ethylenically unsaturated fluorine monomers selected from the group consisting of fluoroalkyl monomers and perfluoroalkyl monomers and any mixtures thereof, wherein said alkyl, cycloaliphatic, and aryl groups have 1-12 carbon atoms.

5. The coating composition of claim 1, in which

(a) the core of the dispersed polymer comprises polymerized monomers of styrene, alkyl methacrylate, alkyl acrylate or mixtures thereof wherein said alkyl has 1-12 carbon atoms, and an ethylenically unsaturated monocarboxylic acid, and

(b) the macromonomers attached to the core comprise polymerized alkyl methacrylate, alkyl acrylate monomers or mixtures thereof, each having 1-12 carbon atoms in the alkyl group, hydroxy alkyl acrylate or hydroxy alkyl methacrylate or mixtures thereof, each having 1-4 carbon atoms in the alkyl group, and glycidyl acrylate or glycidyl methacrylate.

6. The coating composition of claim 1 wherein the coating is a clearcoat for a basecoat/clearcoat finish.

7. A coating composition containing a film forming binder and an organic liquid carrier, wherein the binder comprises a fluorinated silane functional polymer that is fluorinated to a sufficient amount to provide a coating composition when applied to a substrate and cured thereon has a water advancing contact angle at least 100° and a hexadecane advancing angle of at least 40°.
8. A process for coating a substrate, comprising:
- (a) applying a layer of a pigmented basecoating to the substrate to form a basecoat thereon;
 - (b) applying to the basecoat a layer of the composition of claim 1 to form a topcoat over said basecoat;
 - (c) curing the basecoat and topcoat to form a basecoat and topcoat on the substrate.
9. A topcoat coating composition in which a fluorinated organosilane polymer is post added to the coating composition as a polymer or additive.
10. A substrate coated with the composition of claim 1.
11. An automobile or truck top coated with the composition of claim 1.